



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,022	03/25/2002	Asko Paakki	OY JALO-011	5502
530	7590	09/20/2004	EXAMINER	
LERNER, DAVID, LITTENBERG, KRUMHOLZ & MENTLIK 600 SOUTH AVENUE WEST WESTFIELD, NJ 07090			ALVO, MARC S	
			ART UNIT	PAPER NUMBER
			1731	

DATE MAILED: 09/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/089,022	PAAKKI ET AL
Examiner	Art Unit	
Steve Alvo	1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 18 June 2004.

2a)  This action is FINAL. 2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## **Disposition of Claims**

4)  Claim(s) 10-17 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 10-17 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)  All    b)  Some \* c)  None of:

1.  Certified copies of the priority documents have been received.
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_

4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_

5)  Notice of Informal Patent Application (PTO-152)

6)  Other: \_\_\_\_\_

The amendment to the specification has been entered.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over PROUGH (4,071,399) in view of VILLAVICENCIO (4,689,117).

PROUGH teaches producing chemical pulp by charging lignocellulosic material (21) into a digester through high pressure feed valve (2); treating the lignocellulosic material (wood chips) with an impregnation liquor (60) in impregnation zone (A) to produce an impregnated lignocellulosic-containing material; treating the impregnated material in digestion zone (B) with hot liquor heated to cooking temperature and displacing (screens 61 and liquor separator at the top of the vessel (6) to liquor (23)) calcium containing spent liquor (column 2, lines 8-11 and lines 32-36) and displacing the cooking liquor from the digester using a portion of the displaced calcium-containing spent liquor (23->28->32->32->28->80). It would have been obvious to the artisan that the hot digestion liquor displaces the calcium containing liquor as the impregnation zone is counter-current with the liquor (23) exiting at the top of the vessel. VILLAVICENCIO teaches the alternativeness of digesting pulp in continuous or batch basis column 1, lines 62-63). It would have been *prima facie* obvious from the teachings of VILLAVICENCIO to operate the continuous process of PROUGH as a batch process. This merely requires filling the vessel and treating the material under the same conditions taught by PROUGH and then releasing the material, rather than continually flowing material out of and into the vessel.

Claims 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over PROUGH in view of VILLAVICENCIO as applied to claim 10 above, and further in view of SNEKKENES et al (6,468,390).

PROUGH teaches recycling liquor from various levels in the digester. It would have been obvious that the further down the digester the less calcium containing liquor would be present. If necessary, SNEKKENES et al teaches withdrawing spent impregnation liquor from various locations and recycling the impregnation liquor to the process at various levels to conserve chemicals and energy. It would have been obvious to use different portions of impregnation liquor as the recycle liquor (80) of PROUGH as such is taught by SNEKKENES et al to conserve digesting chemical and energy.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over PROUGH in view of VILLAVICENCIO as applied to claim 10 above, and further in view of ENEBERG et al.

ENEBERG teaches that calcium-containing liquors are used in impregnation and digestion and teaches that importance of controlling the amount of calcium by controlling temperature of the liquor to prevent scaling on the equipment. It would be *prima facie* obvious to control the temperature of PROUGH in the manner taught by ENEBERG to prevent scale build up on the digester of PROUGH. It would have been well within the skill in the artisan to monitor the temperature and calcium concentration as ENEBERG et al teaches that they are related and need to be controlled.

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over PROUGH in view of VILLAVICENCIO and SNEKKENES et al as applied to claim 11 above, and further in view of ENEBERG et al.

ENEBERG teaches that calcium-containing liquors are used in impregnation and digestion and teaches that importance of controlling the amount of calcium by controlling temperature of the liquor to prevent scaling on the equipment. It would be *prima facie* obvious to control the temperature of PROUGH in the manner taught by ENEBERG to prevent scale build up on the digester of PROUGH. It would have been well within the skill in the artisan to monitor the temperature and calcium concentration as ENEBERG et al teaches that they are related and need to be controlled.

Applicant's arguments with respect to PROUGH not being a "batch" process is not convincing as the use of a batch process would have been obvious from the teachings of VILLAVICENCIO for the reasons set forth above.

The argument that PROUGH does not teach distinct displacement stages from individual stages is not convincing as such a limitation has not been claimed. The recycle liquors of PROUGH would displace the liquor in the chips in each of the stages in the same manner as that claimed as the liquor is added through conduits (60), (68) and (76) and withdrawn through the screens at different levels along the digester including the top of the digester. These screens would remove the displaced liquor which is then recirculated back into the digester during treatment of different material which passes through the digester.

The 35 USC 112 rejections have been dropped as Applicant indicates that the heating takes place in the pretreatment step and not in the cooking zone. It is noted that his step would have been obvious over the heated liquor added to the pretreatment step of PROGH, e.g. liquor (60) coming from heater (63).

Claim 10 would be allowable if amended as follows:

The specification on page 10 describes detecting a clear drop in calcium content and controlling the flow of displacement liquor based on the detection of a drop in calcium content. A limitation drawn to the monitoring and control of the dilution liquor, e.g. similar to the disclosure at page 10, lines 13-14, with the proper antecedent basis of such a limitation, would be given favorable consideration. However, merely monitoring variables known to be important in the process would have been obvious to the routineer.

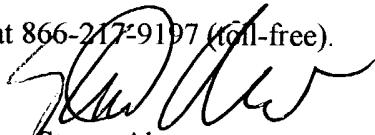
Applicant's amendment, claiming a batch process, 10-17 necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steve Alvo whose telephone number is 571-272-1185. The examiner can normally be reached on 5:45 AM - 2:15 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Steve Alvo  
Primary Examiner  
Art Unit 1731

msa